

## CHAPTER 4

**MEDICAL COMMAND, CONTROL, COMMUNICATIONS,  
COMPUTERS, AND INTELLIGENCE****4-1. General**

*a.* When totally fielded, the medical C4I system will provide a seamless state-of-the-art capability that permits global connectivity for medical units. This will provide connectivity between all medical units supporting the operations and between supported and supporting units, the CONUS-based hospitals and other medical organizations supporting global CHS operations. While the current medical C4I is flexible, versatile, and is capable of supporting the AOE, it must be updated to meet the IO requirements of providing CHS for the warfighters of Army XXI. Future medical C4I must be strategically, operationally, and tactically responsive to a broader range of worldwide requirements. The medical C4I capability will integrate both vertically and horizontally with the warfighters' C4I and BOS, and will provide real-time situational awareness. Future medical C4I will require communications network interconnectivity with the global automated systems architectures to access clinical and medical information used in supporting force projection operations.

*b.* The medical C4I capability requires automation and communications equipment to—

- Provide health threat information for preventing casualties due to disease and nonbattle injury (DNBI).
- Provide medical C4I for global CHS operations.
- Ensure the capability of rapid strategic deployability by exercising the C4I first-in, last-out principle.
- Enhance the capability to promptly locate, acquire, treat, and evacuate battlefield casualties.
- Conduct split-base operations on a continuous basis.
- Provide CHS staff advice and assistance at all command levels.
- Provide a lead element with deploying forces and coordinate the arrival of CHS assets into an area of operations (AO).
- Support joint, combined, allied, and coalition forces across the operational continuum.
- Interface with Army systems, other Services, and DOD automated systems throughout the operational continuum.
- Enhance the warfighter's capability to accomplish his mission by promptly reporting DNBI trends and suspected enemy biological warfare agent employment.

- Allow transfer of images and videos for medical situation awareness within the AO.
- Enable three-dimensional presentation of imagery and graphics with multimedia technology to help commanders visualize their AO for more effective training, planning, rehearsal, and execution.

#### **4-2. Medical Communications for Combat Casualty Care**

*a.* Medical communications for combat casualty care (medical C4I) is the ability to effectively link the health care provider with state-of-the-art diagnostic and communications systems. It embodies a seamless diagnostic, treatment, patient evacuation, and medical regulating infrastructure for the delivery of CHS. The medical C4I capability focuses on the evolving nature of military battle space and the military medical environment to support assigned operational missions. Further, to enhance readiness, it proactively focuses on developing total access for troops in isolated or distant locations.

(1) These technologies will enable the interchange of health information and enhance a MTFs ability to—

- Rapidly and accurately diagnosis disease and injury.
- Promptly determine appropriate treatment regimes.
- Monitor the patient's medical condition.
- Rapidly transmit and receive real-time medical threat data and facilitate its analysis into medical intelligence.
- Expedite notification of other CHS teams required to deploy in response to the disaster/incident after initial assessment is completed and requirements are identified by the deployed specialty response teams (SRTs). See FM 8-42 for definitive information on SRTs.

(2) This electronic bridge provides the vital communications link with MEDCEN and other AMEDD activities by—

- Providing C2 of CHS resources. This is accomplished by using long- and short-range wireless communications to deployed units utilizing frequency modulated (FM) and amplitude modulated (AM) radios. Also, a mix of military, civilian, and public sector communications systems to coordinate casualty care may be used. In addition, satellite communications link must be established with forward deployed medical units.
- Providing the medical C2 units with a real-time status of CHS capabilities. This includes the medical threats, DNBI trends, availability of medical evacuation assets, current situation of MTFs, patient tracking, return to duty (RTD) status of soldiers, combat health logistics (CHL) and blood status, and the status of medical, dental, and veterinary consultative, diagnostic, and treatment services.

- Maintaining a database of DNBI trends within the AO and provide guidance on PVNTMED measures to counter the threat.
- Acquiring, treating, and returning soldiers to duty as quickly as possible.
- Providing CHL (to include blood management) support to forward deployed units by ensuring the timely resupply of Class VIII items and blood.
- Providing enhanced CSC support to troops employed in forward areas.
- Providing, in conjunction with the nuclear, biological, and chemical (NBC) Warning and Reporting System, identification and immediate dissemination of information on suspected NBC agent/weapon employment. Additionally, this electronic bridge will enhance the rapid identification of disease outbreaks in the AO.
- Providing information on hazards created by low-level radiation, toxic industrial chemicals, and NBC hazards.
- Projecting enhanced diagnostic medical and dental treatment procedures to lesser qualified medical personnel far forward on the battlefield or in distant areas. Also, it will provide professional consultative services on treatment protocols.
- Providing enhanced veterinary diagnostic and treatment procedures for military working dogs (MWDs) and other government-owned animals to veterinary personnel in far forward locations and in isolated areas. It will also provide telemedicine enablers to veterinary food inspection personnel.

*b.* Medical personnel at all echelons will exchange information with each other by audio, digital, video, and electronic media. This communications ability ensures maximum use of theater and US-based medical specialty skills, diagnostic capability, and treatment regimens. The integration of existing and emerging information technologies into the CHS and patient care systems will allow the medical commander to project the expert care necessary to sustain the future force.

*c.* To enhance the survivability of medical assets in future conflicts, a secure means of communications is required for all mobile CHS squads and teams, such as forward deployed ambulance squad or treatment team. Combat health support communications systems must be compatible and interoperable with all other communications systems to include the WIN architecture and other DOD communications systems. Medical units also require the capability to maintain and sustain the communications systems it employs.

*d.* To ensure the effective use of required communications assets, CHS communications requirements must be prioritized. Within the strategic and tactical communications systems, broadband widths may be limited and CHS requirements will compete with other operational requirements for use of these limited resources.

#### 4-3. Medical Command, Control, Communications, Computers, and Intelligence

*a. Echelons I and II.* Medical C2 and situational awareness at the division and unit levels are critical to reducing morbidity and mortality on the battlefield. Medical units must be a part of the Army's C2 systems and have real-time situational awareness of the battlefield.

(1) Echelon I medical platoons organic to maneuver and combat battalions require communications in the form of voice, digital, and video systems. The medical platoon will employ Force XXI Battle Command Brigade and Below System (FBCB2) for digital communications and real-time situational awareness when fielded. Using the FBCB2 along with the global positioning system (GPS), the medical platoon will have instant visualization of where the medical and nonmedical vehicles of the battalion are located. In the future, the combat medics/medical platoon personnel will use the casualty locator system, currently under developed, to expedite the recovery and treatment of wounded or injured soldiers. In addition, medical platoon personnel will use the individual digitized patient record (IDPR) when fielded. Medical platoon will require the above enablers to support the digitized maneuver battalions of Army XXI and to ensure effective management and employment of their organic medical treatment and evacuation resources.

(2) Echelon II includes medical companies of the division, separate brigades, and area support medical battalions (ASMBs). It includes the medical staffs located in the DISCOM, division headquarters and headquarters company (HHC), and ASMBs. The medical C4I for Echelon II CHS will require communications equipment that employs wire, wireless, digital and video systems. In addition, Echelon II will require those items identified for Echelon I. In support of the Army XXI digitized divisions, the medical companies will use FBCB2 while the division medical staff (DSS of digitized divisions which take over the functions of the DMOC of the nondigitized division) will have access to or own a CSSCS. These capabilities are required to enable the DSS, the medical staff of the DISCOM, and medical unit commanders to provide CHS for the digitized division. During Joint operations, the above units and medical staffs may provide CHS for other Services. Also, medical units and staffs must coordinate for sharing CHS information with allied and coalition forces, host nation, and other governmental and nongovernmental agencies.

*b. Echelons III and IV.* The major medical C2 units at Echelon III (corps-level) are the medical brigade and medical group and at Echelon IV (communications zone [COMMZ]) the medical command. Under the Army XXI/MRI, the major C2 units at Echelon III are the medical command and medical brigade and at Echelon IV, the medical command.

(1) The primary focus for current or future COMMZ and corps major medical C2 units is on the Army component and corps commander's intent. These command medical units plan, coordinate, and synchronize CHS to meet the requirements of the warfighter commanders' objectives. They provide medical C4I for major subordinate medical units.

(2) These major medical C2 units will require state-of-the-art communications equipment to employ wire, wireless, and digital systems and satellite linkages. These capabilities are required to enable the commands to provide medical C4I for all assigned or attached units.

(3) The major medical C2 units require reliable communications network interconnectivity with the DA's AIS architecture, including access to the DOD and global automated systems architectures, to acquire and provide real-time CHS operations information. This capability is also required by commands and subordinate units to transmit and receive real-time mission requirements information, both vertically and horizontally, throughout the Army and the DOD information infrastructure.

(4) Joint, interagency, or multinational operations, headquarters will require communications connectivity with the other Services, allied and coalition forces, host nation, and other governmental and nongovernmental agencies.

*c. Echelon V.* The OCONUS/CONUS sustaining base hospital and other Army medical organizations supporting global CHS operations are included in Echelon V. In contingency operations, the major medical C2 organization deploying to an operations area, is responsible for linking medical functionally emulative increments (FEI) with the Army component commander's staff. Echelon V hospitals and other medical organizations supporting global CHS will require state-of-the-art communications equipment to employ wire, wireless, and digital systems and satellite linkages. These organizations will require access to commercial and military space communications technologies. The major medical C2 organization preparing to deploy, its FEI and its subordinate units, Echelon V hospitals, and other supporting medical organizations require communications capability and reliable network interconnectivity with the DA's information architecture. This also includes access to the DOD and global automated systems architectures. The fielding of new technology and systems, such as the electronic theater medical record and the computerized medical records for the MHS, will enhance all aspects of CHS. A necessary component of these will be the personal information carrier (PIC). The PIC is envisioned as a data repository (as small as an identification tag) for important information that will be carried by the military personnel pre- and postdeployment. These computer-based records may contain information related to prevention, surveillance, medical deployability, and health status and wellness of the active duty soldier. As the soldier moves through the continuum of care, the PIC provides a timely and accurate source of the patient's information.

#### **4-4. Treatment**

*a.* Today's force projection Army (and the missions it is required to perform) increases the need for rapid acquisition, aggressive initial emergency medical treatment (EMT), and safe evacuation of battle-field casualties. Current doctrine includes tactics, techniques, and procedures for providing CHS on the forward battlefield. The use of new technologies and techniques enhances our abilities to provide CHS. Medical communications for combat casualty care provides essential communications links of CHS personnel with each other and with other units/commands in the operational area as well as with out-of-theater organizations/activities. The types of communications equipment employed will vary with the echelons of care.

(1) Echelon I and II medical/treatment platoons and treatment teams have the same medical C4I requirements as identified in the paragraph above.

(2) The division surgeon and the DMOC collocate their staffs within the division support area to maximize their support efforts. These staffs prepare CHS plans for inclusion in the

divisional OPLAN. They provide medical oversight and coordinate the employment of nondivisional medical units and personnel placed in direct support of the division.

*b.* The future battlefield may be extended over larger areas, or in depth, with the supporting medical units spaced at greater distances. The combat medic may be the only medical person available to provide care within the first hour of wounding. The physician or physician assistant (PA) at the battalion aid station (BAS) may have a patient present with life-threatening injuries that requires treatment procedures beyond their professional skills. An enabler that will assist the physician, the PAs and the combat medic is telemedicine. Telemedicine combines the domains of clinical medicine, medical computer science, and telecommunications in order to enhance the health care provided to the soldier and other personnel authorized treatment. Telemedicine is a system designed to reduce the mortality and morbidity rate of soldiers by lowering the died of wounds rate. Also, telemedicine will aid physicians to make early diagnosis of diseases by making expert consultation in a variety of medical specialties available, as needed. Two enablers of telemedicine that offer access to specialized care not otherwise available are—

(1) *Telementoring.* This is a process that allows a medical person with greater knowledge and experience to guide a medical person with less knowledge who is treating a patient at a distant location. For example, a health care provider (the mentor) at a BAS guiding a combat medic in the treatment of a wounded soldier on the battlefield. Telementoring uses voice and/or digital AIS to communicate information.

(2) *Teleconsultation.* This is a process that allows two health care providers to discuss a patient's medical condition to establish the best treatment protocol. The purpose of teleconsultation is for health care providers to share their skills and knowledge to reduce the number of soldiers dying before they reach a definitive care facility. Teleconsultation may use voice, digital, text/graphic, and video AIS. Examples of teleconsultation are as follows:

(a) The PA with a treatment team operating a BAS minus discussing a patient's condition with the physician at another location in the battalion area.

(b) The health care provider at a MEDDAC consulting with a specialist at a MEDCEN.

#### **4-5. Medical Evacuation and Medical Regulating**

Medical evacuation is the transport of a patient via air or ground ambulance while providing en route care. Medical regulating is a corps and echelons above corps (EAC) function. In the corps, this function is performed by the corps medical regulating officer (MRO). At EAC, medical regulating is performed by MEDCOM MRO and the Joint medical regulating office. Medical regulating provides the coordination and control of moving patients to MTFs which are best able to provide the required specialty care. It is designed to ensure the efficient and safe movement of patients.

##### *a. Echelon I.*

(1) Ambulance teams will be linked to combat medics, medical treatment teams, and supported units by the same communications method as identified for Echelon I in the paragraphs above.

An enhanced communications capability will enable ambulance teams to rapidly receive evacuation requests and to receive evacuation mission updates while en route. Further, it will enhance the capability of the medic by making telementoring available as required to provide en route care.

(2) Medical regulating is not performed at this echelon. Medical platoons will track patients as they move in the division to supporting Echelon II MTF.

*b. Echelon II.*

(1) Ambulance platoons, squads, and teams must be able to rapidly locate, acquire, treat, and provide medical evacuation of patients from supported units. Echelon II ambulance platoons will provide direct and area medical evacuation support. Echelon II ambulance platoons will evacuate patients from supported BASs to the FSMC located in the brigade support area. Corps ground ambulances provide medical evacuation from FSMCs and main support/division support medical companies back to corps hospitals. Corps air ambulances in direct support of maneuver brigades will provide medical evacuation from the point of injury (mission, enemy, terrain, troops and time available, and civilian considerations ([METT-TC]-dependent) and from BASs back to the FSMC. Corps general support ambulances will evacuate from FSMCs and main support medical companies (MSMCs)/division support medical companies (DSMCs) back to corps hospitals. The ambulance platoons, squad, teams and air crews will require the same communication equipment identified above for Echelon II MTFs.

(2) Medical evacuation personnel must have a dedicated net to communicate with supported and supporting units. Air ambulance crews must be provided Army airspace command and control information. Medical evacuation personnel must be able to communicate with the other Services, allied and coalition forces, host nation, and other governmental or nongovernmental agencies as required.

(3) No formal medical regulating system at this echelon; only informal tracking of patient destinations.

(4) Division and DISCOM medical staffs must be able to communicate through secure wire, wireless, and digital communications to corps and supported units within the AO to successfully accomplish the medical evacuation and medical regulating missions.

*c. Echelon III.*

(1) The corps medical evacuation battalion provides both ground and air medical evacuation for supported divisions. Ground ambulance evacuation support for the corps is provided by the area support medical companies on an area basis. Air ambulance support will be provided with air ambulances from the medical evacuation battalion. Corps areas supported may include ports, airheads, and offshore and afloat facilities. Evacuation assets must be capable of communicating with supported and supporting units, and with medical C2 organization, other Services, allied and coalition forces, host nation, and other governmental and nongovernmental agencies. Communications will include wire, wireless, digital, video, casualty locator, global positioning, and satellite linkages. Additionally, medical personnel providing en route medical care must have the capability to receive telementoring and to input information into the PIC and the digitized medical record when fielded.

(2) A formal system of medical regulating is initiated at Echelon III. Communications between the medical brigade/group, hospitals, medical evacuation battalion, and other MTFs is required. Echelon III MROs must be able to coordinate with supported and supporting units, the other Services, DOD agencies, allied and coalition forces, host nation, and other governmental and nongovernmental agencies. The medical regulating mission requires the capabilities to transfer patient information to designate receiving facilities, to arrangement of modes of transportation, to provide movement to appropriate evacuation points, to provide patient tracking, and to provide medical treatment information. To accomplish this mission, communications using wire, wireless, digital, and satellite linkages must be available.

*d. Echelon IV.*

(1) Medical evacuation assets are centralized under a medical C2 organization and provide medical evacuation support to and from airheads and ports and patient transfers between Echelon IV facilities. Also, they provide medical evacuation support on an area support basis at EAC. The capability for telementoring and teleconsultation will also be required at this echelon. The actual mission of medical evacuation out of Echelon III and Echelon IV is performed by TRANSCOM assets. Communications in the form of wire, wireless, digital, global positioning, casualty locator, and satellite linkages must be available.

(2) Communications between medical C2 organizations, hospitals, evacuation assets, and medical holding facilities are required. Echelon IV MROs must be able to coordinate with supported and supporting units, the other Services, DOD agencies, allied and coalition forces, host nation, and other governmental and nongovernmental agencies. The medical regulating mission necessitates the capability to transfer patient information, designate receiving facilities, arrange mode of transportation, move patients to appropriate evacuation points, perform patient tracking, and provide medical treatment information. To accomplish this mission, communications means using wire, wireless, digital, and satellite linkages must be available. Furthermore, information and data from the DOD HA, TRANSCOM, and other standard automated systems must be capable of digital exchange through the integration of these systems and communications networks to form a seamless information web. An example of these systems is the TRANSCOM's TRAC2ES.

*e. Echelon V.*

(1) It is a Service responsibility to transport their patients from debarkation points to and between the supporting hospital or medical center. Echelon V facilities can include DOD hospitals and MEDCENs, VA hospitals, and civilian hospitals that are members of the NDMS. Memorandums of agreement or understanding between the US Army and local communities may exist to provide medical evacuation support to neighboring civilian communities, as well as providing evacuation support during disasters. Medical evacuation resources and medical C2 organizations must be able to communicate with supported and supporting units, the other Services, and other governmental and nongovernmental agencies. To accomplish these missions, communications using wire, wireless, digital, and satellite linkages must be available.

(2) The medical regulating mission necessitates the transfer of patient information, designation of receiving facilities, arrangement of mode of transportation, movement to appropriate evacuation



points, patient tracking, and medical treatment information. Communications between medical C2 organizations, MEDCENs, hospitals, evacuation assets, and medical holding facilities are required. Medical regulating offices must be able to coordinate with supported and supporting units, the other Services, DOD agencies, and other governmental and nongovernmental agencies. To accomplish this mission, communications using wire, wireless, digital, and satellite linkages must be available.

#### **4-6. Hospitalization**

- a. Echelon I.* There are no hospitals at this echelon.
- b. Echelon II.* There are no hospitals at this echelon. However, a forward surgical team (FST) may be deployed at this echelon to provide initial resuscitative surgery for nontransportable patients. This FST will collocate with a divisional or nondivisional medical company for required support. Information support will deploy forward as necessary, in support of the surgical teams as found at Echelon III.
- c. Echelon III.* The first hospital is located at this echelon. Patients received from the corps and division areas are stabilized for continued evacuation or treated and RTD. Those patients identified as non-RTD are evacuated to an EAC facility for further stabilization and evacuation out of the theater. The hospital will integrate telemedicine, hospital information, and communications systems providing full digital, voice, and video capability. These systems interface with supported and supporting units, the other Services, and other governmental and nongovernmental agencies at the strategic, operational, and tactical levels.
  - (1) The hospital communications system will include wire, wireless, and digital communications between hospital departments and personnel. It will also provide gateways to troop facilities at all echelons and evacuation platforms, using the WIN. The internal voice communications network will provide wire and wireless communications connectivity to the WIN, to include battlefield digitization, global C2, and sustaining base AIS.
  - (2) The hospital AIS will provide an integrated electronic patient database, including laboratory and radiology results, pharmacy orders, medications, allergy information, physician's orders, and required reporting formats. The deployed hospital patient database will be capable of transparent interface with other DOD patient databases. Patient records will be accessible on a central database and stored electronically on a PIC device. The hospital AIS will provide access to theater logistics, blood, medical regulating, and other medical AIS.
  - (3) The hospital will utilize a digital imaging network system. This system will transmit diagnostic quality medical images, high resolution still images utilizing digital cameras, radiological images, dental images, patient clinical data, pharmacy data, laboratory systems data, and microscopic images between hospital workstations, as well as via satellite or other communications system from the deployed MTF to the consulting MTF. This information will be stored electronically on a PIC device.
  - (4) The hospital will use video teleconference systems. A desktop video system may be incorporated into key hospital workstations, allowing for the display of interactive video, as well as the

various images of the digital imaging network. Large screen video has the potential to display images in the operating room or the EMT area. Direct satellite broadcast will support medical education, medical situation awareness, and PVNTMED operations.

*d. Echelon IV.* At this echelon, those patients not expected to RTD within the theater evacuation policy are stabilized and evacuated to Echelon V facilities. Those patients expected to RTD are provided convalescent care and rehabilitative services. Hospitals at this echelon will integrate telemedicine and hospital information and communications systems as identified for Echelon III.

*e. Echelon V.* This echelon of care is provided in DOD fixed hospitals and VA hospitals. Under the NDMS, patients overflowing DOD and VA hospitals will be cared for in designated civilian hospitals. Echelon V hospitals will provide the expert consultation base that could be accessed by deployed medical treatment units. Echelon V hospital information and communications systems that provide voice, digital, and video capabilities will be compatible with those systems used by deployed medical organizations and MTFs.

#### **4-7. Dental Services**

Dental services in the AO are provided by dental personnel that are organic to Echelons II and III MTFs and by dental units. The categories of dental care in the AO are emergency, preventive, general dentistry, and specialty care. Additionally, dental personnel will assist medical personnel in mass casualty situations.

*a. Echelon I.* No dental capabilities are organic to Echelon I. Preventive care is provided by mobile teams deployed from Echelon II and Echelon III dental resources.

*b. Echelon II.* Dental care is provided by organic dental personnel. They will be augmented by mobile teams deployed from corps dental units. Dental personnel at this echelon will require the ability to communicate with supported and supporting units. Telemedicine enabler capabilities are also required. Communications in the form of voice, digital, and video will be required for mission accomplishment.

*c. Echelon III.* Dental care at this echelon is provided by corps dental units and resources organic to Echelon III hospitals. Treatment teams are deployed forward to augment and reinforce the Echelon II dental personnel. Telemedicine enablers are required. Dental personnel will communicate with supported and supporting units, C2 units, other Services, allied and coalition forces, host nation, and other governmental and nongovernmental agencies. Communications in the form of voice, digital, and video will be required for mission accomplishment. Dental personnel will interface with the hospital communications system to access integrated patient dental records, storage of dental data, the PIC, and standard AIS for laboratory, radiology, and pharmacy services.

*d. Echelon IV.* Dental care at this echelon is provided by both independent dental units and dental personnel organic to Echelon IV hospitals. Telemedicine enablers are required. Dental personnel will communicate with supported and supporting units, C2 organizations, other Services, allied and coalition forces, host nation, and governmental and nongovernmental agencies. Communications in the form of voice, digital, and video will be required for mission accomplishment.

*e. Echelon V.* Dental care at this echelon is provided within fixed facilities. Dental personnel will use telemedicine enablers. Communications in the form of voice, digital, and video will be required.

#### **4-8. Preventive Medicine Services**

The most cost effective means of providing CHS is the employment of a competent PVNTMED program. To be effective, disease surveillance must begin before troops are deployed. Further, PVNTMED assets must be deployed with the first troops into an AO. Early surveillance is conducted by means of PVNTMED obtaining and disseminating medical threat information on the AO. Preventive medicine personnel must be able to communicate with supported and supporting units, C2 units, allied and coalition forces, host nations, and other governmental and nongovernmental agencies. Communications in the form of voice, digital, and video will be required for mission accomplishment. Broadcast satellite will disseminate PVNTMED information throughout the AO.

*a. Echelon I.* Preventive personnel are not organic to Echelon I. Preventive medicine activities at the unit level include those performed by individual soldiers, unit field sanitation team, and organic medical personnel. Routine PVNTMED support (such as training unit field sanitation teams) and PVNTMED surveillance activities are provided by Echelon II PVNTMED teams. Corps-level PVNTMED units/teams augment Echelon II PVNTMED teams on an as-needed basis. Communications in the form of voice, digital, and video will be required for mission accomplishment.

*b. Echelon II.* Preventive medicine support is provided to units at Echelons I and II on an area support basis. Communications in the form of voice, digital, and video will be required for mission accomplishment.

*c. Echelon III.* At this echelon, PVNTMED support is provided to those units at Echelons I and II as requested and to units at Echelon III on an area support basis by PVNTMED units specifically designed, organized, equipped, and manned to perform PVNTMED support. Also, at this echelon, each major medical C2 organization has a PVNTMED staff available to provide consultation and technical guidance on PVNTMED issues. All PVNTMED units/teams at this echelon will use voice, digital, and video communications. Further, the PVNTMED units/teams will use telemedicine enablers to maximize PVNTMED support throughout the AO. The staff of the major medical C2 organizations access AIS to receive and analyze DNBI data in order to provide commanders with guidance on PVNTMED measures to reduce and/or eliminate the health threats.

*d. Echelon IV.* Those PVNTMED support activities found at Echelon III and the medical C4I requirements are the same.

*e. Echelon V.* The CONUS-based medical organizations that provide PVNTMED support for Army installations are assigned MEDDACs and MEDCENs. Selected PVNTMED activities/organizations provide PVNTMED support on a global basis. These activities/organizations include but are not limited to US Army Center for Health Promotion and Preventive Medicine (USACHPPM), US Army Medical Research Institute of Infectious Diseases (USAMRIID), US Army Medical Research Institute of Environmental Medicine (USAMRIEM), Walter Reed Army Institute of Research (WRAIR), and US Army Medical

Research Institute of Chemical Defense (USAMRICD). These activities/organizations will require voice, digital, video communications and telemedicine enablers to maximize PVNTMED support to deployed units.

#### **4-9. Combat Stress Control Services**

*a. Echelon I.* Echelons II and III combat stress teams provide CSC support at this echelon to supported units and on an area support basis.

*b. Echelon II.* In the division, mental health sections organic to the MSMC and FSMCs provide CSC to supported units and on an area support basis. These sections are augmented as required from a corps CSC medical detachment that is in direct support of the division. The division psychiatrist provides input to the division surgeon on CSC-related matters. In the corps, mental health sections of the area support medical companies (ASMCs) under the guidance of the ASMB psychiatrist provide mental health/CSC support on an area support basis. Both division and ASMB psychiatrists are responsible for synchronizing mental health/CSC activities for prevention, training and treatment of neuropsychiatric (NP) and stress-related casualties. The CSC personnel use communications in the form of voice, digital, and video to accomplish their mission and use telemedicine enablers to maximize the CSC support.

*c. Echelon III.* Echelon III CSC units include the CSC medical company and the CSC medical detachment. The CSC fitness section (two CSC fitness teams) and the preventive section of the CSC medical detachment provide direct support to a division and support in the corps. The CSC medical company provides comprehensive preventive and treatment services to the corps and EAC during war. It provides this support to all Services on an area support basis. The CSC medical company provides direct support to separate maneuver brigades or combat support brigades. It reinforces or reconstitutes other CSC units or sections in the corps or division. The CSC medical company provides CSC/mental health to indigenous populations as directed in stability operations and support operations, to include domestic support operations, humanitarian assistance, disaster relief, and peace support operations. The CSC medical company augments hospital NP services by staffing a temporary NP ward and augments ASMB mental health sections as required. The CSC medical company will also conduct CSC reconditioning programs. Combat stress control units and mental health sections located in or operating from the corps require communications in the form of voice, digital, and video to accomplish their mission and will use telemedicine enablers to maximize the CSC support. At this echelon, the medical brigade has a mental health staff to monitor, coordinate, and provide technical guidance.

*d. Echelon IV.* Those mental health/CSC support activities found at Echelon III are replicated and the medical C4I requirements are the same.

*e. Echelon V.* Community Medical Health Activities (CMHAs) located at MEDCENs and MEDDACs provide mental health support for Army installations. Division and corps mental health sections and corps CSC units may augment CMHAs. The MEDDAC or MEDCEN may deploy stress management SRTs prior to or in the initial stages of a major incident or catastrophic event. The stress management SRT provides initial NP, mental health, and stress assessment. This team provides initial critical events stress management for military and civilian responders and for survivors, as directed.

Designated MEDDAC and MEDCENs will provide CSC consultation support and services for deployed forces. The MEDDAC and MEDCEN staffs monitor, coordinate, and provide technical guidance to the staffs of deployed mental health/CSC sections and units. In Echelon V, CMHA and CSC units/teams use communications in the form of voice, digital, and video to accomplish their mission and use telemedicine enablers to maximize the CSC support.

#### **4-10. Laboratory Services**

*a. Echelon I.* Laboratory services at this echelon are limited to “dipstick” techniques performed by the physician or PA.

*b. Echelon II.* Laboratory services at this echelon are limited. The laboratory specialist will use wire, wireless, digital, and high resolution still imaging video communications to receive support from an Echelon III laboratory facility in evaluating prepared laboratory presentations. Support will consist of evaluation and consultation of laboratory test results, digitized images of microscopic cells and structures, and high resolution still images. For stability and support operations deployments, the supporting laboratory may be an offshore or US-based laboratory facility.

*c. Echelons III and IV (Corps Level and Echelons Above Corps).*

(1) *Clinical laboratory services.* Clinical laboratory services are located in Echelon III hospitals. The clinical laboratory services will use wire, wireless, digital, video, high resolution still images, microscopes equipped with video and still cameras, and satellite communications. These systems will be used to receive support from the general CHS laboratory and other supporting laboratories. Laboratory specimen presentations will be transmitted via digital, video, and satellite communications. Reports of laboratory services will be provided to the requesting clinical service or ward via wire, wireless, and digital communications. Blood transfusion and blood donor information will be transmitted via digital, wire, wireless, and satellite communications. Blood management information will be linked to the theater joint blood management information system. For stability operations and support operations deployment, the supporting laboratory may be an offshore or a US-based laboratory facility.

(2) *Theater Army Medical Laboratory.* The current Theater Army Medical Laboratory (TAML) will be replaced by the Area Medical Laboratory (AML) as a result of MRI. The AML functions are focused on rapid health hazard identification and assessment and initial identification of suspected biological warfare agents within an AO. These operational health hazards include NBC threat agents, endemic diseases, and other medical threat associated with occupational and environmental health risks. The AML is capable of tailoring its deployable assets to meet specific operational objectives and split-base mission requirements. The AML will be linked to medical and nonmedical units via wire, wireless, digital, still cameras, active video, and satellite communications. The AML will be linked to medical units at all echelons including the supporting Echelon V MTFs, US-based laboratories, MRMC facilities, and other governmental and nongovernmental facilities as required. The AML will provide telementoring and teleconsultation support to supported medical units. Collectors will have access to the AML for directions on collection, preparation, and shipment of DNBI or suspect NBC specimens and samples.

*d. Echelon V.*

(1) *Clinical laboratory services.* The clinical laboratory services at this echelon are contained in the MEDDACs and MEDCENs. The medical C4I requirements are the same as those identified at Echelons III and IV hospitals.

(2) *General combat health support laboratory.* The general CHS laboratory services at Echelon V are located at MEDCENs. They provide general laboratory support on a regional basis to medical activities within the regional medical commands. The medical C4I requirements are the same as those identified for the TAML.

(3) *Medical research laboratories.* Medical research laboratories will employ wire, wireless, digital, active video, still cameras, and satellite communications systems. These systems will be linked to supported laboratories on a worldwide basis. Any DOD CHS laboratory with communications capabilities can access this laboratory for support. However, lower echelon laboratories should remain in their technical chain of command for laboratory support. During stability operations and support operations, these laboratories may be the next echelon supporting laboratory. All suspect biological agent employment specimens are forwarded through channels to the designated laboratory for confirmation.

#### **4-11. Veterinary Services**

The US Army Veterinary Service is the DOD Executive Agent for veterinary support to the US Army, US Navy, US Marine Corps, and US Air Force. Veterinary support is also provided upon request. It is subject to availability of resources for government-owned animals of other federal agencies. In some instances, it is also provided to allied/coalition partners and/or host-nation agencies. Veterinary support begins long before troops are deployed. Veterinary personnel are employed on a daily basis to government-contracted food production facilities and on military installations in support of DOD personnel. Veterinary units/personnel require deployment with the first soldiers into an AO because of the potential health threat from foodborne diseases, the threat of NBC contamination of subsistence, and the need to assess the zoonotic diseases. Comprehensive veterinary medical and surgical programs are also re-quired to maintain the health of government-owned animals. Veterinary service personnel at all echelons must be able to communicate with supported and supporting units, joint forces, C2 organizations, allied and coalition forces, host nation, and other governmental and nongovernmental agencies. Communications in the form of wire, wireless, digital, video, and satellite will be required for mission accomplishment at all echelons.

*a. Echelon I.* At Echelon I, food safety investigations, animal disease surveillance to assess potential health threats, and animal emergency health care are provided across Service boundaries by Echelon III veterinary units.

*b. Echelon II.* Veterinary services are provided by Echelon III veterinary units to divisional Class I supply points. Animal health care and zoonotic disease surveillance is provided on an area basis by the medical detachment, veterinary (large) and medical detachment, veterinary (small). At this echelon, Level I and II (emergency treatment, stabilization, and evacuation) veterinary medical care is provided for animals.

*c. Echelon III.* The veterinary service detachment provides food safety, food laboratory analysis, zoonotic disease surveillance, and Levels I and II veterinary medicine for MWDs for all military Services on an area basis. Level III veterinary medicine is provided by the medical detachment, veterinary medicine. Level III veterinary medical care is definitive and comprehensive (complete care). Civil Affairs units at Echelons III and IV also contain veterinary personnel to assist with public health infrastructure rebuilding and to liaison with host nation government public health officials. Veterinary personnel will interface with medical evacuation assets for movement of injured MWDs.

*d. Echelon IV.* Echelons above corps veterinary detachments provide food safety, food laboratory analysis, zoonotic disease surveillance, and animal surgical/medical health care to all Services. An expanded veterinary laboratory analysis capability is available to support investigation of foodborne disease outbreaks. Veterinary assets within the TAML have additional capacity for unique laboratory evaluation of specimens of endemic and zoonotic diseases. Veterinary personnel will interface with medical evacuation units for movement of injured MWDs.

*e. Echelon V.* All DOD installations are supported by Army veterinary activities. The Veterinary Command oversees veterinary service for CONUS, OCONUS, and provides consultative support to deployed forces.

#### **4-12. Combat Health Logistics**

##### *a. Echelon I.*

(1) *Nondigitized.* The nondigitized medical platoons and treatment teams receive its Class VIII resupply through supply point distribution from the brigade support area (BSA) or push packages from the division medical supply office (DMSO) located in the MSMC. Emergency Class VIII resupply is obtained from the FSMC.

(2) *Digitized.* The medical platoons, treatment teams, and medical sections at this echelon will employ voice and digital communications (FBCB2) and the TAMMIS Medical Logistics-Division (MEDLOG-D) when fielded, to request Class VIII resupply and medical maintenance support from the supporting Echelon II medical company. The supporting medical company will fill or forward requests to the supporting medical logistics company of the medical logistics battalion.

##### *b. Echelon II.*

(1) *Nondigitized.* The medical companies request Class VIII resupply, blood, and medical maintenance from the DMSO. Class VIII resupply is accomplished by the DMSO through ambulance backhaul, logistics packages, or push Class VIII packages.

(2) *Digitized.* The medical companies of the division request Class VIII resupply and blood using the TAMMIS MEDLOG-D. This system provides division medical companies and the medical materiel management branch of the DISCOM a direct link with the supporting MEDLOG battalion units. This connectivity is accomplished using mobile subscriber equipment. Once established, the MEDLOG

company provides Class VIII resupply for division medical elements and for corps medical elements operating in the division AO. During deployment lodgment, and early buildup phases, medical units operate from planned, prescribed loads and from existing pre-positioned war reserve stockpiles identified in applicable contingency plans. During the initial employment phase, each FSMC will receive a preconfigured medical resupply push package every 48 hours from pre-positioned stock or the sustaining base. Preconfigured medical resupply push packages will continue until appropriate units of the corps MEDLOG battalion, are established. Initial resupply efforts may consist of preconfigured medical supply packages tailored to meet specific mission requirements. Preconfigured push packages will normally be shipped directly to the DSMC and FSMCs until replenishment line item requisitioning is established with the supporting MEDLOG company. During this time BASs are resupplied from the DSMC or FSMCs. While resupply by preconfigured packages is intended to provide support during the initial phase, continuation on an exception basis may be dictated by operational needs. Planning for such a contingency must be directly coordinated with the DSS. Other than line-item requisitioning, the health service materiel officer of the DSS and the DISCOM MMB will coordinate all Class VIII requirements for the division with the supporting MEDLOG battalion and/or MEDLOG company. The DMSO of the nondigitized division will remain with the digitized divisions until the division is issued the TAMMIS MEDLOG-D and throughput Class VIII from the corps MEDLOG company is established. Medical companies will employ voice, digital, and video communications to request Class VIII resupply, blood, medical maintenance, and optical fabrication and repair support from the supporting MEDLOG company and blood detachment.

*c. Echelon III.* The current MEDLOG battalion provides combat health logistics support for the corps and its divisions. This support includes Class VIII resupply, blood and blood products, medical maintenance, and optical fabrication and repair support. Under the MRI, the mission and functions of the MEDLOG battalion did not change, but the battalion was reorganized so that it could more effectively perform its mission. The MEDLOG battalion and the MEDLOG company will employ voice, digital, and video communications systems. The MEDLOG battalion communicates with supported and supporting units, the other Services, allied and coalition forces, host nations, and other governmental and nongovernmental agencies as required. The TAMMIS and the logistics information management system provides an integrated electronic Class VIII database, to include medical maintenance. Information on blood transfusions and blood donors will be transmitted via the blood management AIS and linked to the Joint Blood Management Office.

*d. Echelon IV.* Those CHL activities found at Echelon III are replicated and the medical C4I requirements are the same.

*e. Echelon V.* The strategic logistics system for Class VIII will employ information and communications systems the same as Echelon III and Echelon IV. The information and communications system will provide the capability to interface with DOD strategic elements as well as TDA and TOE medical organizations. It will allow the Class VIII strategic logistics units to access AIS for the capability of projecting time-phased medical requirements.